Attachment 5

PROJECT PRONTO
PRODUCT OVERVIEW

March 1, 2000

One Bell Plaza

Concourse Auditorium

PRONTO: PRODUCT OVERVIEW
OUTLINE

- INTRODUCTION

- EXPLANATION OF INFRASTRUCTURE
  - NON-DLE INFRASTRUCTURE
  - DLE INFRASTRUCTURE

- SBC REQUEST FOR INTERPRETATION OF MERGER CONDITIONS

- DLE UNBUNDLING PLAN
  - Explanation of PRONTO Unbundled Network Elements (UNEs)

- DLE HIGH LEVEL SERVICE ORDER FLOW

- NOTE: The material contained within this document is in draft format. SBC reserves the right to change and/or alter the products and processes outlined within in this document.

PRONTO: PRODUCT OVERVIEW
INTRODUCTION

- **SBC REQUEST FOR INTERPRETATION OF MERGER CONDITIONS:** SBC recently has requested an interpretation of merger conditions by the FCC in regards to the Project PRONTO infrastructure deployment within SBC.

- **MEETING PURPOSE:** The purpose of this discussion is to outline to the CLEC community the new products that the SBC ILECs are developing in conjunction with the PRONTO infrastructure and in order to explain the logic behind SBC's request for interpretation of merger conditions.

- **ASSUMPTIONS:** The products outline in this presentation are based upon the assumption that SBC receives the interpretation of the merger conditions allowing SBC to own both the OCD and the ADLU (DSL line card) in the remote terminal. Both of these elements will be explained in detail in this presentation.

PRONTO: PRODUCT OVERVIEW
INTRODUCTION

- **PROJECT PRONTO:** PROJECT PRONTO is designed to increase the reach of xDSL services to end users throughout the SBC 13-state region. This project consists of the placement of digital loop carrier (DLC) systems in new and existing remote terminals. This serves to shorten loop lengths, limit the impacts of loop conditioning and increase the availability of DSL service to consumers.

- **UNBUNDLING PLAN:** The PROJECT PRONTO unbundling plan is a work effort within the Wholesale Marketing division of SBC to provide unbundled access to the infrastructure being deployed under PROJECT PRONTO. The infrastructure itself will belong to the SBC TELCOs and will be provided on a leased basis to CLECs interested in providing DSL services over this infrastructure.

- **DLE:** PROJECT PRONTO is typically referred to within SBC as the Digital Loop Electronics environment or "DLE".

PRONTO: PRODUCT OVERVIEW

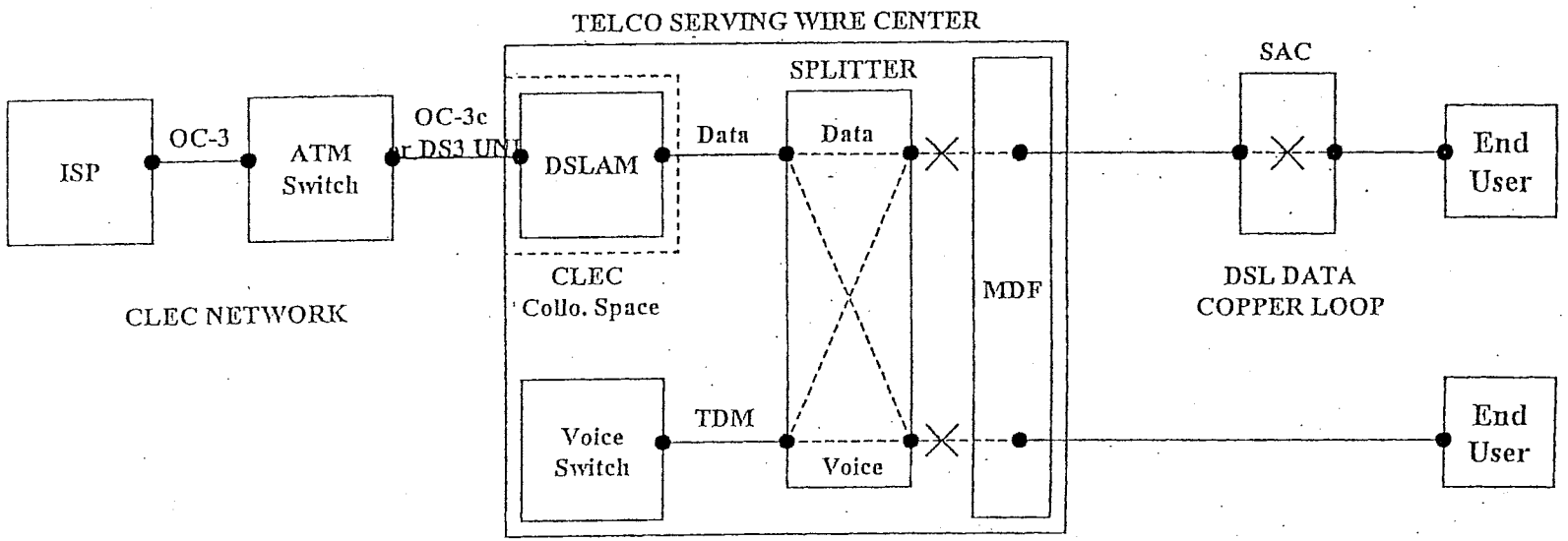
INFRASTRUCTURE

PRONTO: PRODUCT OVERVIEW

NON-DLE INFRASTRUCTURE

- DEFINED BY THE FOLLOWING:
  - Traditional DSL environment
  - Central office based DSLAMS
  - UNE xDSL capable loops

- HIGH LEVEL DIAGRAM:



PRONTO: PRODUCT OVERVIEW

NON-DLE INFRASTRUCTURE

- LIMITATION OF NON-DLE INFRASTRUCTURE
  - Availability of DSL service is limited by loop length and conditioning

- SOLUTIONS TO LOOP LENGTH AND CONDITIONING LIMITATIONS IN NON-DLE ENVIRONMENT
  - Shorten loop lengths by placing DSLAMS in the remote terminals
  - Requires collocation of DSL equipment in new and existing CEVs and Huts if space and environmental capacity is available.
  - Requires dark fiber from Serving Wire Centers to the remote terminals where available.
  - Requires collocation of DSL equipment in the serving wire center.

- ALTERNATIVE SOLUTION: DIGITAL LOOP ELECTRONICS (DLE)

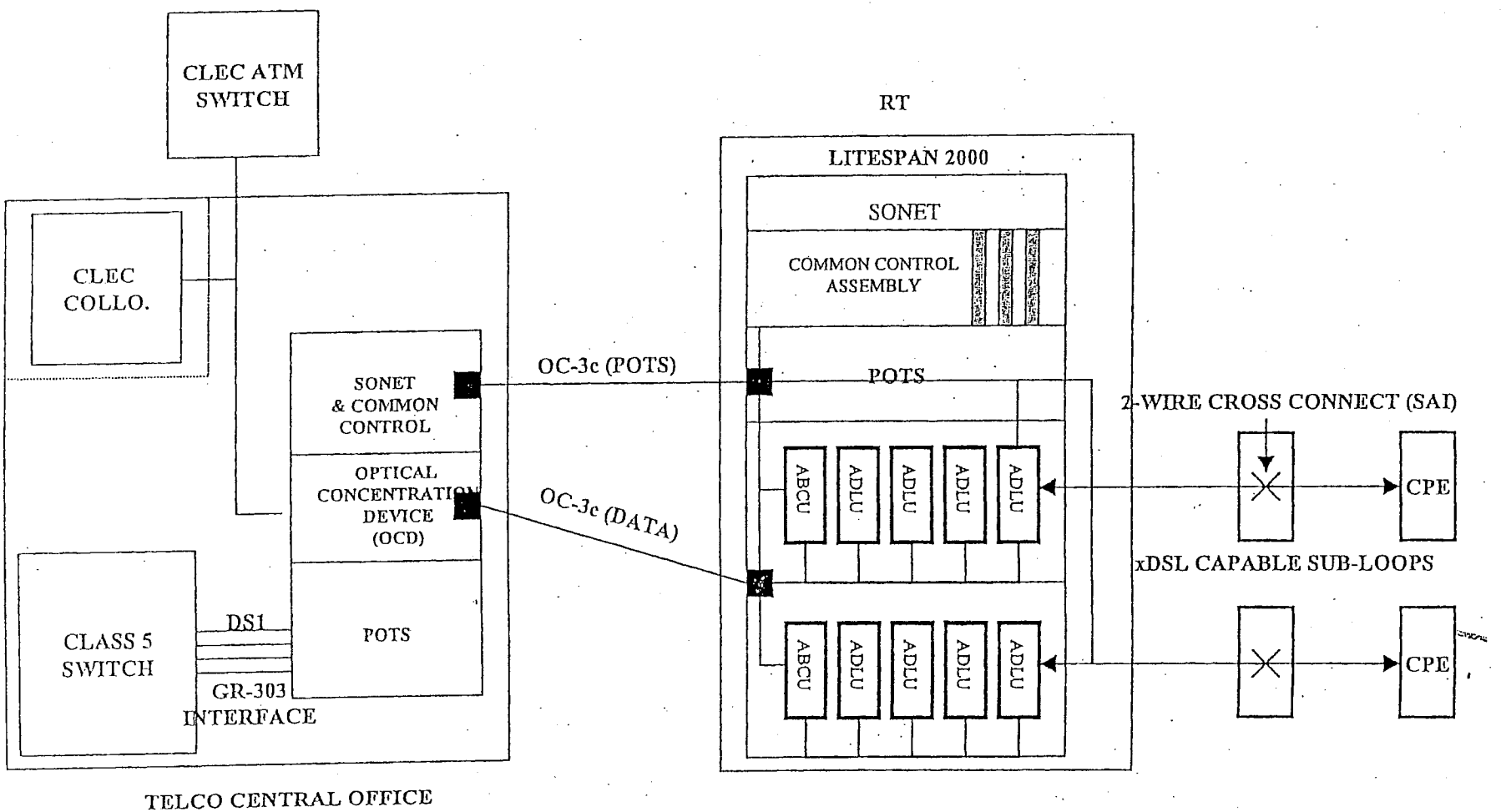
PRONTO: PRODUCT OVERVIEW

DLE - INFRASTRUCTURE

- **ELEMENTS NECESSARY TO PROVISION xDSL- DLE:**
  - Remote Terminal Equipped with Digital Loop Carrier (DLC) Systems.
  - Remote Terminal Combo Cards (ADLU) to Provide DSLAM Functionality
  - Remote Terminal (RT) Derived UNE Sub-Loops
  - DLC Central Office Terminal Equipment
  - Dedicated OC-3c Transport for Voice and Data from the RT to the Central Office
  - An Optical Concentrator Device (OCD) for Inbound Data Traffic
  - Access to ATM Capacity Via Interoffice Facilities

PRONTO: PRODUCT OVERVIEW

DLE - INFRASTRUCTURE



PRONTO: PRODUCT OVERVIEW
DLE - INFRASTRUCTURE DEFINTIONS

- OPTICAL CONCENTRATION DEVICE (OCD)

  - Optical concentration device (OCD) is a generic term for a device that takes a group of incoming OC3s from multiple remote terminals or DSLAMS and then concentrates the signals into one or more outgoing OC3s.

  - The OCD cross-connect will take incoming ATM packets from multiple OC-3s and multiple remote terminals, depacketize these incoming OC-3s, read the routing information on individual groups of packets and then concentrate (re-packetize) these packets into outgoing OC-3s designated to a particular ATM switch.

- ADLU COMMON CARD

  - The ADLU splits the voice from data and provides an functionality similar to a DSLAM.

PRONTO: PRODUCT OVERVIEW
DLE - INFRASTRUCTURE DEFINTIONS

- OC-3C DATA TRANSPORT

  - Transmits dedicated OC-3c Data from the DLC to the OCD over common OC-3c fiber.

  - The OC-3c facility will be designed to take multiple packetized data signals outgoing from the ADLU cards placed in the DLC channel banks in a remote terminal, multiplex those packets into a packetized OC-3c signal, and then transport the signal to the OCD.

  - The OC-3c data will transport signals from multiple ADLU cards between the remote terminal and the central office.

  - The OC-3c transport will be similar to common transport in that it will transport packets pertaining to multiple CLECs and multiple end users over one facility.

PRONTO: PRODUCT OVERVIEW
DLE - INFRASTRUCTURE DEFINTIONS

- PERMANENT VIRTUAL CIRCUITS (PVC)

  - A Permanent Virtual Circuit (PVC) will be necessary from the Litespan equipment in the RT through the OCD device (CBX-500) in the Central Office to the CLEC packet switch.

  - The PVC will consist of a virtual cross-connect placed in the DLC equipment and of an additional virtual cross-connect placed in the OCD.

  - In addition to the virtual cross connects, the PVC will also consist of use of the OC-3c facility and fiber cross-connect between OCD and the RT.

  - An Unspecified Bit Rate (UBR) PVC will be provided to CLECs in conjunction with the use of the OC-3c transport from the RT to the central office.

PRONTO: PRODUCT OVERVIEW
DLE - INFRASTRUCTURE DEFINTIONS

- OCD PORT TERMINATION
  - Physical Termination on OCD (CBX-500 ATM Switch) in the Central Office

- OCD CROSS-CONNECT
  - A cross-connect will be necessary to the CLECs collocation point from the OCD Port Termination. This will be to either physical or virtual collocation. This cross-connect will be offered from the OCD Port Termination at either the OC-3c or DS3 level. An additional cross-connect can be made to extend the OCD Port Termination to a DSX location in order for the CLEC to pick up their desired form of transport.

PRONTO: PRODUCT OVERVIEW

DLE - SBC REQUEST FOR INTREPRETATION OF MERGER CONDITIONS

PRONTO: PRODUCT OVERVIEW

DLE - SBC REQUEST FOR INTREPRETATION OF MERGER CONDITIONS

- **WHY HAS SBC REQUESTED AN INTERPRETATION OF MERGER CONDITIONS?**
  - SBC has requested an interpretation of the Ameritech merger conditions to allow the SBC TELCO's to own some elements of the DLE infrastructure that have been defined in the merger conditions as advanced services equipment. Those elements are the OCD and the ADLU line card.

- **PROPOSALS CONSIDERED**
  - Prior to SBC issuing the request for interpretation, SBC considered three (3) alternatives in relation to the ADLU line card:

  - **PROPOSAL #1**: CLEC Owns the ADLU Card and Ships the Card to the TELCO for Placement in Remote Terminals
  - **PROPOSAL #2**: CLEC Owns Equivalent Plug (Port Level) / TELCO Maintains (ADSL Plug Sharing)
  - **PROPOSAL #3**: TELCO Owns the ADLU Card and Provisions the Card on Behalf of CLECs as Part of the DLE Unbundled Network Elements.

PRONTO: PRODUCT OVERVIEW
IMPLICATIONS FOR CLECs

- PROPOSAL #1 (CLEC OWNS THE CARD/TELCO PLACEMENT)

  - PRO:
  - CLEC Would Control Capacity / Utilization For Cards by RT
  - CLEC Would Have the Capability to Develop New Features For Their Cards
  - Non-Discriminatory Access Via UNE

  - CON:
  - Stranded Capacity (4 Ports per Card, CLEC may on the outset be only using 1 port)
  - Limits ADSL Availability in the Remote Terminal Due to Capacity Issue Above.
  - CLEC is required to invest in ADLU Cards and Develop Process to Provide Those Cards to the TELCO.
  - Tax Implications For CLECs to Maintain an Inventory of Cards.
  - Vendor Contracts Would Be Required Between Each Card Vendor and the CLEC.
  - CLEC Ownership Would Lead to a Complex and Expensive Provisioning Process Which Will Lead to a Higher Cost per DSL Loop.

PRONTO: PRODUCT OVERVIEW
IMPLICATIONS FOR CLECs

- PROPOSAL #2 (ADSL PLUG SHARING)

  - PRO:
  - Non-Discriminatory Via UNE
  - CLECs Billed For Ports on Cards as Opposed to Cards Themselves
  - Mitigates Stranded Capacity Impacts
  - CLEC Forecasts Demand Across Wire Center - TELCO Places Plugs
  - CLEC Development of New Feature/Card
  - Maximizes Space By Allocating Ports as Compared to Slots

  - CON:
  - Cost of creating administrative process for managing the pool.
  - Billing for ports used.
  - Tax/Investment implications for ports used.
  - Shipping and Confirmation of Receipt of New Plugs for Pool.
  - Available CLEC Port Capacity at any given time.
  - Vendor Contracts Required for Each CLEC.
  - Complex Provisioning Process Leading to Higher Cost and Longer Intervals..

PRONTO: PRODUCT OVERVIEW
IMPLICATIONS FOR CLECs

- PROPOSAL #3 (TELCO ADLU CARD OWNERSHIP)

  - PRO:
  - Non-Discriminatory Via UNE
  - CLEC Forecasts Demand
  - Mitigates Stranded Capacity Concerns
  - CLEC Development of New Feature/Card & Facilitates Testing Process
  - Maximizes Space By Allocating Ports as Compared to Slots
  - CLEC Vendor Contracts Are Not Required
  - CLEC Has No Investment Expense
  - Process for CLECs to Provide Cards to the TELCO is Not Necessary - Reduces Costs and Shortens Provisioning Intervals.

  - CON:
  - Requires Merger Conditions Interpretation.
  - TELCO Bears Risk/Burden Of ADLU Card Cost and Administration

PRONTO: PRODUCT OVERVIEW
IMPLICATIONS FOR CLECs

- CLEC CAPABILITIES UNDER PROPOSAL #3:
  - SBC will unbundle access to the network elements as defined by the DLE infrastructure. This will relieve space limitation problems of having to collocate in remote terminals.
  - CLECs will have the option of collocation as a means of access to the unbundled elements to utilize some form of facility to gain access to these unbundled elements.
  - CLECs will continue to have the option to collocate DSL equipment in new and existing cabinets, CEVs and huts if space and environmental capacity is available.
  - CLECs will continue to have the option to develop new plug-ins with vendors if technically compatible to SBC equipment deployed over the DLE infrastructure.
  - CLECs can purchase the DLE UNEs on a non-discriminatory basis.
  - CLECs will avoid administrative costs associated with plug-in or port ownership.

PRONTO: PRODUCT OVERVIEW

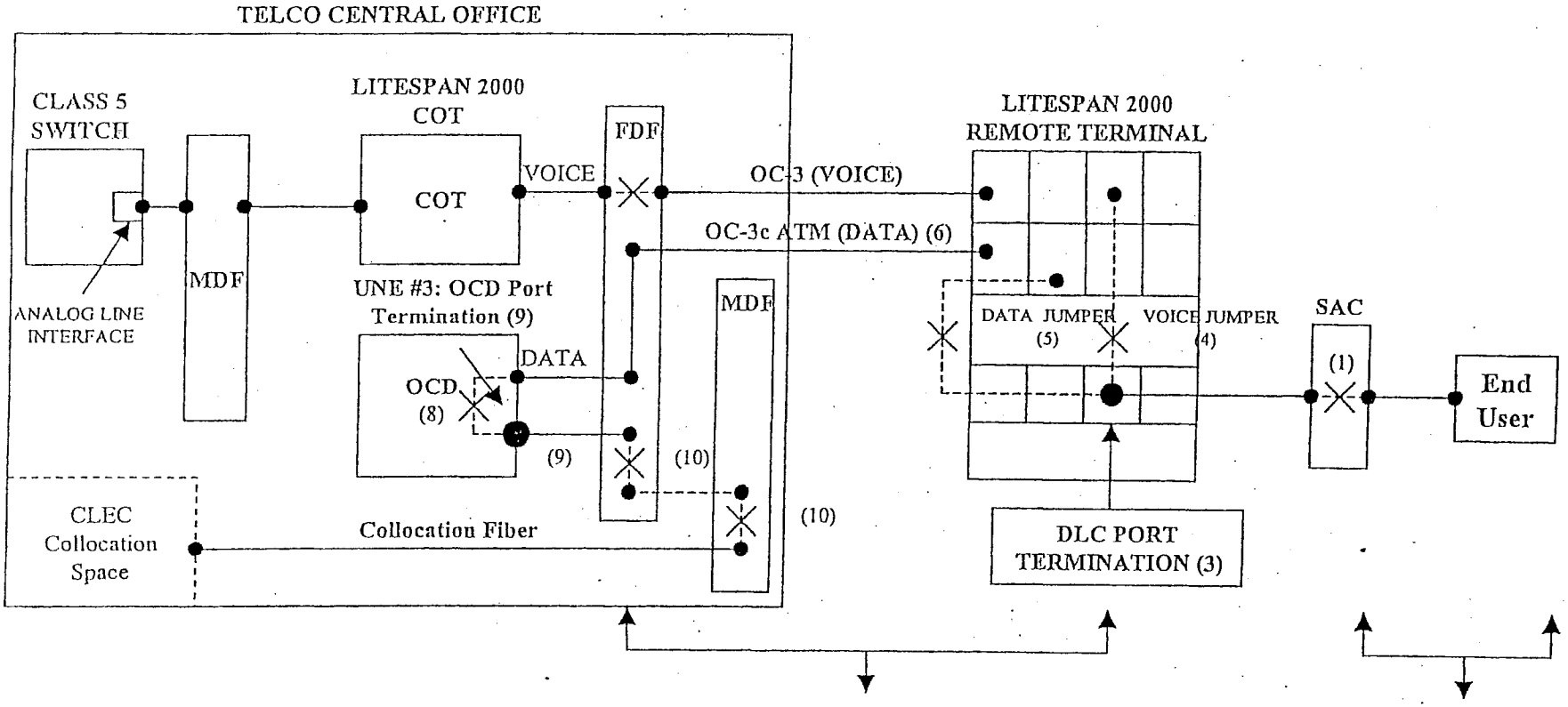
UNBUNDLING PLAN

PRONTO: PRODUCT OVERVIEW
UNBUNDLING PLAN

- **ASSUMPTIONS:** The following outlines the PRONTO Unbundling plan based upon the following assumption:
  - TELCO Owns the ADLU Card
- **SCENARIOS:** The TELCO will offer unbundled network elements in conjunction with two typical scenarios differentiated over the copper portion of DLE infrastructure:
  - **Line Shared** - The TELCO will offer a set of UNEs specific to line sharing allowing CLECs who desire to line share over the copper portion of this infrastructure to provision such service.
  - **Data Only** - The TELCO will also offer a non-line shared, dedicated data facility.
- **xDSL PRODUCTS SUPPORTED:**
  - At this time the PRONTO infrastructure will support all forms of xDSL as specified by the DSL appendix. In such instance as the CLEC is line shared, CLEC will be limited to PSD Mask #5 (ADSL) as specified in the line sharing order. For the data only loop, CLECs will have PSD Mask #1 - 7 available over this infrastructure.

PRONTO: PRODUCT OVERVIEW

UNE DIAGRAM



(1) DLE ADSL SAC Cross Connect

(2) UNE DLE-ADSL HFPSL

(3) DLC Port Termination

(4) DLC Virtual Circuit - Voice

(5) DLC Virtual Circuit - Data

(6) OC-3c Dedicated for Data

(7) UNE DLE-ADSL Feeder

(8) OCD Virtual Cross Connect

(9) UNE OCD Port Termination (OC-3 or DS3)

(10) OCD Cross-Connect to Collocation (or UDT)

PRONTO: PRODUCT OVERVIEW

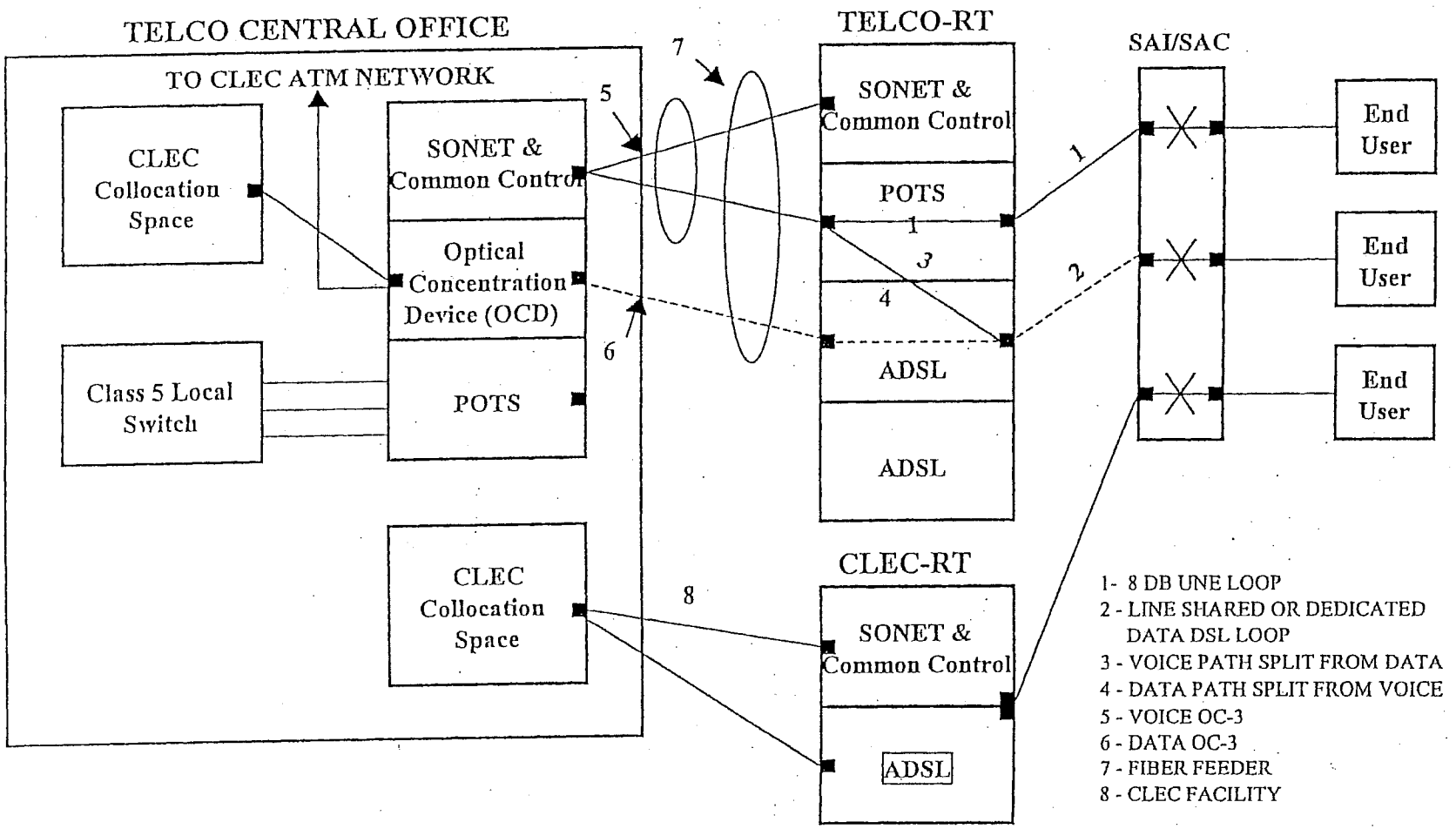
PRONTO UNEs

- LINE SHARED ELEMENTS:
  - UNE DLE-ADSL HFPSL
  - UNE DLE-ADSL Feeder
  - UNE OCD Port Termination (OC-3 or DS3)
  - CROSS CONNECTS:
    - DLE ADSL Cross-Connect
    - OCD Cross-Connect to Collocation
    - OCD Cross-Connect to DSX-1

- DATA ONLY ELEMENTS:
  - UNE DLE-ADSL Sub-Loop (DATA ONLY)
  - All Other Elements Are Identical To Line Sharing

PRONTO: PRODUCT OVERVIEW

PRONTO UNBUNDLING SCENARIOS



PRONTO: PRODUCT OVERVIEW

HIGH LEVEL SERVICE ORDER FLOWS & BUSINESS REQUIREMENTS

PRONTO: PRODUCT OVERVIEW
HIGH LEVEL ORDER FLOWS

- STEP 1: INFRASTRUCTURE BUILD
  - The PRONTO UNEs are divided into two sub-groups: Infrastructure and End User Specific
  - The Infrastructure Elements Consist of the Following: The OCD Port Termination, existing Unbundled Dedicated Transport (UDT) and associated cross-connects.
  - CLECs must establish infrastructure from their ATM cloud to the serving wire center OCD **PRIOR** to placing end user service orders.
  - CLECs will be provided via network disclosure central office and RT locations that are equipped with the DLE infrastructure.

- INFRASTRUCTURE SERVICE ORDERS
  - The infrastructure elements will be ordered via one (1) Access Service Request (ASR).
  - In addition to the ASR, CLECs will be required to submit a Customer Information Form (CIF) for each OCD port they purchase. The CIF will contain information such as Virtual Path and Channel Indicators and Connection Types (UNI DCE or DTE) to the OCD.
  - A DS3 OCD port can support a maximum of 1000 end user DSL PVCs and an OC-3 port can support a maximum of 6000 end user DSL PVCs.

PRONTO: PRODUCT OVERVIEW
HIGH LEVEL ORDER FLOWS

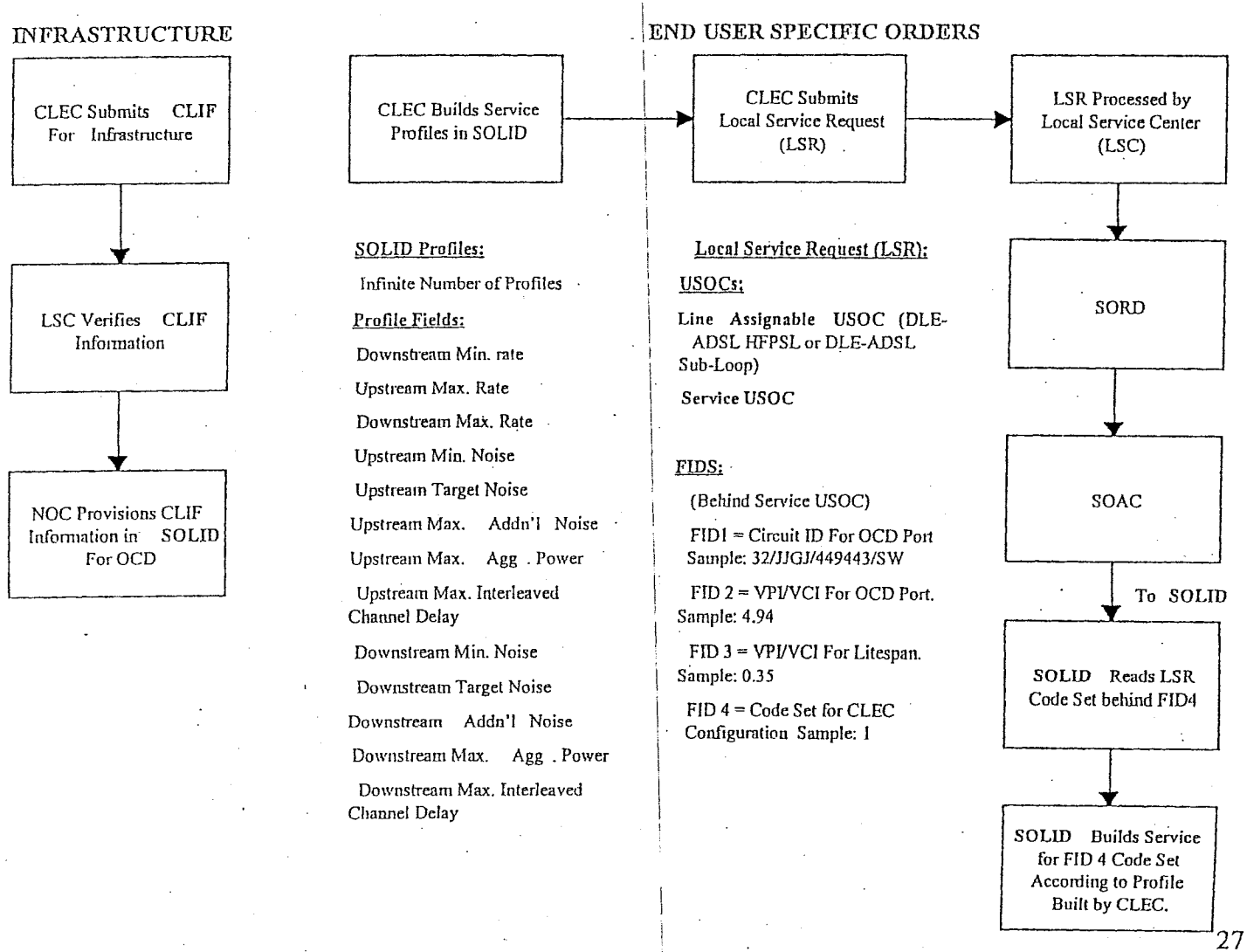
- STEP 2: END USER SPECIFIC ORDERS
  - The End User Elements Consist of the Following: The DLE-ADSL Feeder and the DLE-ADSL HFPSL or DLE-ADSL Sub-Loop

- END USER SERVICE ORDERS
  - The infrastructure elements will be ordered via one (1) Local Service Request (LSR).
  - In addition to the LSR, CLECs will be required to build a profile of services they wish to offer in the TELCO Network Management Systems for both the OCD and the Digital Loop Carrier equipment in the remote terminal. The profile will allow CLECs flexibility in the services they offer to their end users.

- LOOP QUALIFICATION
  - A pre-order loop qualification will be required as a triggering event for ordering the DLE end user service. On a loop qual for either a TN or customer address, the loop qual will return that the loop is not DSL capable, but will alert CLECs that a Remote Terminal is available from which to serve the customer and provision a DSL service.

PRONTO: PRODUCT OVERVIEW

HIGH LEVEL ORDER FLOWS



PRONTO: PRODUCT OVERVIEW
UNE RATE STRUCTURE

	RECURRING MONTHLY	NON-RECURRING INITIAL	NON-RECURRING ADDITIONAL
UNBUNDLED ELEMENTS			
DLE-xDSL HFPSL	Yes	Yes	Yes
DLE-xDSL Sub-Loop	Yes	Yes	Yes
DLE-xDSL Feeder	Yes	Yes	Yes
OCD Port Termination	Yes	Yes	Yes
UDT (OC-3 or DS3)- Existing	Yes	Yes	Yes
Cross-Connects	No	Yes	Yes
OCD Cross-Connect to DSX	No	Yes	No
OCD Cross-Connect to Collo.			
DLE SAI Cross-Connect	No	Yes	No
	No	Yes	No
Loop Qualification			
Mechanized			
Non-Mechanized			

PRONTO: PRODUCT OVERVIEW
BUSINESS REQUIREMENTS & PRODUCT AVAILABILITY

- BUSINESS REQUIREMENTS
  - Business requirements including LSR/ASR service order exhibits are not available at this time but are expected to be release in the near future.

- PRODUCT AVAILABILITY DATE
  - The DLE UNEs as outlined in this presentation are expected to be made available in the late April- early May time frame dependant upon product development efforts.

- CONTRACT LANGUAGE
  - Draft contract language was provided to the FCC in conjunction with the SBC request for interpretation of merger conditions.

- NETWORK DISCLOSURES
  - Network disclosure information is available at the following address:
  - www.sbc.com/PublicAffairs/PublicPolicy/pronto_gateways/Home.html

Attachment 6

SAN FRANCISCO, CALIFORNIA, AUGUST 1, 2001 - 9:05 A.M.

* * * * *

ADMINISTRATIVE LAW JUDGE JONES: The Commission will be in order.

This is the time and place for the continuation of the evidentiary hearing in the permanent line sharing phase of OANAD.

Before we get to today's witness, I wanted to talk about the confidentiality statements that Alcatel has provided to all those who want to have access to Alcatel documents.

And I understand that you have distributed those, Ms. Van Gelder.

MS. VAN GELDER: Yes, your Honor.

ALJ JONES: And I will remind all of you that these statements say that you will return all Alcatel confidential documents -- it doesn't say exactly when this will happen, but after --

MS. VAN GELDER: At the close, your Honor.

ALJ JONES: At the close of the proceeding.

So I remind you that that is a requirement, and I'd like to know, Ms. Van Gelder, whether you would want parties to also return to you the sealed portions of the transcript that deal with that information?

MS. VAN GELDER: Yes, your Honor.

That would be most appreciated.

ALJ JONES: And that will be included as well.

MR. BOWEN: I'm not sure that is correct, your Honor.

Q You just downloaded the new software across the system and you didn't have to replace the cards, is that right?

A That's correct.

Q And is that another example of the feature upgrade, adding CBR capability to what was a UBR-only platform?

A Yes, it was.

Q Okay.

Well,is it fair to say that for the Litespan 2000 to 2012, for the foreseeable future at least, that Alcatel will control the pace and range of added functionalities on that platform?

A Yes.

It's our product. We control the features of that produce.

Q Okay.

Now, can Rhythms buy a line card that would work in -- on the Litespan platform?

A You may buy one of Litespan line cards.

Q That is, you're willing to sell us, for example, an ADLU card, right?

A Yes.

Q Do we have to sign some kind of license, or non-disclosure agreement to get that card or not?

A I guess I'm not familiar with the exact contract language.

Whether there's any restrictions on reverse

engineering or what-not associated with the contract, I don't know.

Q Well, you would expect there to be some kind of those kinds of restriction, wouldn't you, given your knowledge of the company?

A I guess I don't know whether to expect it or not.

Q Okay.

I'm trying to figure out whether or not, if we buy a line card, or more than one, if we buy line cards from Alcatel --

A Yes.

Q -- say ADLU cards, if this Commission gives us what we're asking for, which is the ability to collocate -- and we can talk about that term if you want to -- but what I mean by that is to either put those cards in that channel bank assembly slots ourselves or have Pacific Bell do it via a virtual collocation or other kind of regulatory constructs.

If a Rhythms card is placed in the Litespan slot, is that okay with Alcatel?

A No, it would not be.

I mean, Alcatel had never designed this product with the idea that there would be dual owners of the product, that different circuit cards might be owned and controlled by different companies.

We have nothing inside that protects the insides from someone who controls one card from doing something that might harm the operation of other users.

We have no separate ways that different owners of the parts can get access to and do something to their system.

It was designed with the thought that one person owns the entire system and all the various circuit cards that go into it.

So it's not clear that that would work at all. In fact, it would raise very grave concerns.

Q So it's time for the old "harm of the network" argument to be trotted out.

Is that what you're saying?

A No --

MS. VAN GELDER: Objection, your Honor.

It's argumentative and --

MR. BOWEN: I'll withdraw it.

ALJ JONES: Thank you.

MR. BOWEN: Q Well, Dr. Ransom, let's take this a piece at a time.

We would be buying the same kind of card that you would sell to SBC, isn't that right?

A That's correct.

Q Okay.

And we would sign whatever documents, including any licensing documents, that they would sign to get the cards.

Isn't that right?

A Well, I believe contracts are somewhat unique, but I would assume it would be essentially the same

Attachment 7

Alcatel Teams with ADC and ADTRAN to support TDM-based HDSL2 solutions on industry-leading Litespan platform

Alcatel's Litespan multi-service access platform will support high bit rate DSL technology

Paris, March 27, 2001 - Alcatel (NYSE: ALA and Paris: CGEP.PA), the world leader in Digital Subscriber Line (DSL) solutions, today announced that it has signed Technology License Agreements with broadband equipment suppliers ADC (Nasdaq: ADCT) and ADTRAN (Nasdaq: ADTN). Per the agreements, the Litespan Next-Generation Digital Loop Carrier (NGDLC) platform will support second generation, TDM based, high bit rate Digital Subscriber Line (HDSL2) connectivity. This offering would be made available on Litespan's footprint of over 45 million lines in North America.

ADC and ADTRAN are members of the Alcatel Access Partners Program (AAPP) that gives third-party hardware, software and services vendors an opportunity to showcase and interoperate their new and emerging technologies with Alcatel products and solutions. ADC and ADTRAN will make use of Alcatel's Litespan NGDLC technology to develop TDM-based HDSL2 line-cards for DSL service with speeds up to 1.5 Mbps on existing, single twisted-pair copper wire that connects most "last mile" residential and commercial buildings today. The HDSL2 line-cards will interface with Litespan 2000 and 2012 platform versions that are targeted for release in 3Q 2001. These cards will be developed in strict compliance with ANSI HDSL2 standards in continuation of Alcatel's commitment to open, interoperable, standards-based systems.

Jay Wilson, director of product management – Loop Technologies, ADTRAN Carrier Networks Division, said: "Alcatel is a recognized leader in DLC deployment equipment with its Litespan product line. As the market leader in HDSL/HDSL2, ADTRAN believes that it's essential to provide solutions for Litespan that use this technology. By doing so, ADTRAN continues to provide the most comprehensive HDSL/HDSL2 product line for its customers."

"Any time you combine two best-of-breed solutions into a single offering, carriers and subscribers stand to benefit," said Michele Bishop, vice president of product management for ADC's Wireline Systems Division. "Our agreement with Alcatel means ADC's industry-leading HDSL2 solution will be available from the most widely deployed NGDLC in the marketplace. Carriers can expand their HDSL2-based service offerings to more subscribers, who will in turn get the bandwidth, flexibility and cost savings they've been looking for."

Hamid Lalani, vice president marketing of Alcatel's Wireline Access activities, said: "ADC and ADTRAN bring focused HDSL2 expertise that increases revenue generation opportunities for our carrier customers, while simultaneously providing T-1 speed data access to the end consumer over existing copper". He added: "The Agreements underscore our support for best-of-breed service offerings that leverage our customers' investments in the Litespan platform."

About Litespan:
Alcatel's Litespan is the world's most widely deployed multi-service access node offered to carriers to connect both voice and data access lines. The Litespan platform provides the significant flexibility that is needed to compete in today's fast-paced arena of new services and technologies. Alcatel's Litespan 2000 ANSI for the US-standard-based market and Litespan 1540 ETSI for the rest-of-the-world market allows seamless integration of the Litespan platform into existing and future networks. Litespan is used for all kinds of access lines, POTS, ISDN or xDSL and provides open interfaces to voice networks (V5.2 / GR303) and to broadband data networks.

About Alcatel DSL:
Alcatel is the world's leading supplier of DSL solutions, helping service providers everywhere deploy an expanded range of revenue producing offerings and applications such as high speed Internet access, voice over DSL, and video services. Alcatel's DSL solutions are available on a variety of service platforms, including the Alcatel 7300 and 7350 ASAM; the Litespan NGDLC (Litespan 2000 ANSI and Litespan 1540 ETSI); and environmentally hardened DSL packages optimized for remote

terminal deployment, the Alcatel Remote Access Multiplexer (RAM) and mini-RAM. This complete set of deployment options gives service providers the flexibility to bring DSL service to all potential subscribers in their service areas, regardless of network topology. A unified element management solution, Access Management System, manages voice and data services for the Litespan and the ASAM product family. The Alcatel 5620 Network Manager, an integrated scalable network management solution, seamlessly manages these products at the network and service layers. Alcatel's DSL technology is also offered in an advanced range of customer premises equipment, the Alcatel Speed Touch family of DSL modems, routers and integrated access devices supporting multi-line voice and data service over a single telephone access line.

About Alcatel:
Alcatel builds next generation networks, delivering integrated end-to-end voice and data networking solutions to established and new carriers, as well as enterprises and consumers worldwide. With 130,000 employees and sales of EURO 31 billion in 2000, Alcatel operates in more than 130 countries.

About ADC:
ADC is The Broadband Company(TM). ADC's fiber optics, network equipment, software and integration services make broadband communications a reality worldwide by enabling communications service providers to deliver high-speed Internet, data, video, and voice services to consumers and businesses. ADC (Nasdaq: ADCT) has annual sales of more than $3 billion and employs approximately 21,000 people worldwide. ADC's stock is included in the Standard & Poor's 500 Index and the Nasdaq-100 Index. Learn more about ADC Telecommunications, Inc. at www.adc.com.

About ADTRAN:
ADTRAN, Inc. is an established supplier of advanced transmission products for today's expansive telecommunications networks. Widely deployed in carrier, CLEC, enterprise and global networks worldwide, ADTRAN products support all major digital technologies, including fiber, T3, T1, E1, wireless T1/E1, ATM, Frame Relay, G.SHDSL, SDSL, HDSL, HDSL2, ISDN, and DDS. According to Gartner/Dataquest and IDC, ADTRAN has gained the leading market position in enterprise integrated access devices and HDSL, while maintaining its leadership position for the fourth year in a row in T1 and subrate CSU/DSUs, Frame Relay/DDS extension, and ISDN extension. ADTRAN equipment serves the Regional Bell Operating Companies, interexchange carriers, Verizon, ISPs, Competitive Local Exchange Carriers, international service providers, public and private enterprises, and original equipment manufacturers. For more information, contact the company at 800 9ADTRAN (800 923-8726) or via e-mail at info@adtran.com. On the web, visit www.adtran.com

Contact press@www.alcatel.com